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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, to maintain necessary shipping offices and to generally protect the common interest of Lake Carriers and improve the character of the service rendered to the public.

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CLEVELAND, O.

Local inspectors DeWolf and McGrath, inspected the handsome New York steam yacht Lurline at this port on Tuesday. The Lurline is on her way to Chicago and had her boilers inspected here; besides shipping a new master, as the officer who brought her to this port is not qualified under the existing laws to sail on fresh water.

The large powerful tug C. E. Benham is now stationed at the "Soo" under the management of the Soo River Wrecking and Towing Co., Captain A. C. Chapman who is well and favorably known is the manager of the new line.

Underwriters will meet with owners of the Susan Peck, Aurora, and Adams, today and make a final effort to settle the loss on the wheat cargo of the Peck, which sank in the Soo River last summer. At the same time an attempt will be made to arbitrate the Briton Progress collision case.

Those vesselmen who have had occasion to visit the river in the locality of Main street during the past three months are unanimous in their opinions that the way the work has been conducted is open to criticism, if not censure. In conversation with the RECORD man an owner said the absence of a bridge at Main street had cost him individually \$300, also the loss has been felt in a greater degree by those doing business in that vicinity. Mr. Chris Grover, C. E. Benham, John Thomson, The Chase Machine Co., The River Machine & Boiler Works and others offered to establish a free ferry, but even this was refused and citizens are still compelled to pay toll to cross the river. Not a good word is heard from those who are responsible for the plans or execution of this much delayed, ill timed and expensive method of gaining a few feet in the draw of the bridge, for which it is also learned that a large sum has had to be expended in condemnation proceedings for encroaching on private property.

This has been the regatta week at Cleveland, and intense interest has been manifested in the races sailed. The officers having the regatta in charge are to be congratulated on the entire success of the undertaking, and the visiting yachtsmen are invited on all sides to come again.

The sum of \$60,000 appropriated by the last Congress for a permanent light house at Peninsula Point is now available. The Light House Board are empowered to deal with this amount at their discretion, or rather, to build two or more lightships. It is suggested by a vessel owner of wide experience, that four light ships be built for this amount, two of which should be equipped with machinery, and the other two have only the lightning and fog whistle mechanism. By this means the two with propelling power could take to or from their stations the lightships without power. Should this plan meet the approval of the Light-House Board, a lightship could be placed at Eleven foot shoal, Poverty Passage, Drisco shoal and Whaleback, or Peshtigo reef.

Owing to delay in receiving her official number from the Bureau of Navigation, Treasury Department, Washington, D. C., the new steamer Schuylkill has been unable to proceed to Erie, and as we go to press she is still awaiting recognition from the Commissioner of Navigation, without which she can not clear from the port. The officers of the Schuylkill are, Captain Doherty, Chief Engineer, J. E. Jordan; Chief Mate, James Niland, Second Engineer Howard, and Second Mate, Thomas Bell.

Capt. Geo. P. McKay, and Capt. Charles Penny, U. S. A. will leave port on Friday on the steamer Northern King, Capt. Campau, for a trip over the lakes. The lighting of St. Mary's river, and aids to navigation along the south shore of Lake Superior will be carefully noted during the cruise.

DETROIT, MICH.

Special to the Marine Record:

The Fontaine Crossing Co. are fully entering into the spirit of the lake marine electrical business, having recently equipped the steamers of the Detroit, Belle Isle and Windsor Ferry Co. A plant has been on board the Sappho for some time, and latterly on the Victoria and a contract has now been closed to equip the Fortune and Excelsior of the same line. The Eddy Bros. of Saginaw have also placed an order for a plant of 150 lights and the American Radiator Co. of Detroit for a 250 light plant. Mr. Mark Hopkins' yacht, Bonita, has been furnished an electric light plant which can be used from the dynamo direct or from storage batteries by a special system which the Fontaine Crossing Co. has just completed.

Samuel F. Hodge & Co. had the Specular at their dock for repairs this week, having blown her cylinder head off on Lake Huron. She left Monday night for Alpena where her consort, the Magnetic, was berthed until repairs were made on the steamer.

The excellent work of the Murphy Wrecking Co. in raising the sunken steamer Progress meets with deserved praise from vesselmen at this port.

Last Monday Commander Read, lighthouse inspector, found that a raft had carried away the can buoy on Detroit Reef. It was picked up off Spectacle Reef and promptly replaced.

At last the city has awakened to a desire to give ample fire protection to the large and valuable interests along the river. Tenders have been received for the construction of a fire boat with figures ranging from \$30,000 to \$45,000, the Craig Ship Building Co. being the lowest bidders. The specifications and bids will be closely gone over and the most advantageous bid accepted at an early date.

Among the interesting exhibits at the Detroit International Fair which opens August 23, and continues for ten days, will be a nicely arranged booth for the Beeson exhibit, comprising the six editions of the *Inland Marine Guide* and similar works. The literary booth will be handsomely fitted with marine paintings and all marine publications will be placed on sale. Mr. Harvey C. Bee-

son, who by the way has lately taken unto himself one of Marquette's fairest daughters as a consort, is untiring in his efforts to build up the circulation and prestige of his *Inland Marine Guide* and he courteously invites all vessel men to stay awhile at his booth when visiting the Exposition.

BUFFALO, N. Y.

Special Correspondence to the Marine Record.

The steamer Brazil, from Chicago, with 161,000 bushels of oats, the largest cargo of this cereal ever carried on the lakes, arrived last Tuesday morning and was unloaded at the Ontario elevator.

Evidently in sympathy with the switchmen's strike fourteen firemen on Hand & Johnson's and Maytham's tug fleet struck last Monday. They were getting \$35 a month and board and wanted \$50. The season has been slack with the tug lines, and the time chosen by the firemen was extremely inopportune, but Hand & Johnson promptly laid up four tugs and Maytham three, each company agreeing to help each other in case of an emergency. Fourteen foolish firemen have lost their work and the tug companies are doing business at the old stand. The discharged men attempted to prevent other firemen from obtaining their jobs, but were promptly squelched by the police.

The local switchmen's strike on the Reading system, the Erie, and Buffalo Creek Railroads, has practically paralyzed the shipment of coal up the lakes, and if not soon settled, will seriously interfere with the shipment of grain east by rail. Canal men are already anticipating good rates to New York, should the railroad tie-up become general.

General Manager Ballard says the Union Steamboat Co. has taken no steps toward contracting for the building of two big steel freighters at this port. Nevertheless, it is known that the Union Dry Dock Co. is figuring on two steel boats and will probably get them.

In the office of one vessel broker alone, the switchmen's strike has caused a loss of several hundred dollars through the cancellation of charters made to arrive.

The schooner Sam Flint was somewhat damaged last Sunday night by coming in contact with one of the abutments of the Michigan street bridge.

Hand & Johnson's new tug Cascade will be out this week. She is all finished but painting.

There are continued irregularities in grain cargoes from Toledo, and no one seems to be able to prescribe a remedy.

United States Engineer, General Abbott, is here in conference with local engineer Major Ruffner and prominent Buffalo vesselmen in regard to proposed changes in the completion of the breakwater. Major Ruffner thinks a safe dockage can be obtained in the outer harbor by constructing one or two detached arms of sea wall, which work could be done with the appropriation already in hand while to push the original plan to completion would require additional appropriations and years of work. Major Ruffner's plan in no way conflicts with the ultimate extension of the breakwater as far as the original plan calls for.

The proposed new Buffalo-Cleveland passenger line causes considerable talk among vessel men, and opinions regarding its money-making possibilities are decidedly at variance. The fact that the new line is to be but a link in a through route to Chicago is, however, generally regarded favorable to the success of the enterprise.

The Lumber Shovers' Union seems to be at last in the throes of dissolution as an effective organization. Vessel men generally concur in the opinion that its representatives, and its works are unsatisfactory and unreliable.

COPPER VS. STEEL SHIPS.

Superintendent Cooper of the Calumet & Hecla Smelting Co., says that he has given considerable thought to the matter of using copper in building ocean going vessels; that plates of the thickness required would sell for ten cents per pound after it had done years of service; that the avoidance of barnacles adhering to ships bottoms by the use of copper was a great saving in fuel, for steamers could then keep up the initial speed guaranteed by the marine architect, and the time saved in vessels not having to go into the dry docks to be scraped and repainted should also be credited to the cost of using copper. The deoxidized Lake Superior copper is only slightly acted upon by salt water, and as for tensile strength and elongation it is fully equal if not superior to steel. If this matter was looked into by shipbuilders it would be of immense benefit and economy to them, and would very materially increase the consumption of copper. Mr. Cooper omits to state how the plating is to be fastened and whether frames, beams, etc., are also to be of copper, chemical action in opposing metals has always to be strictly considered and the exfoliation of copper plating would lessen the life of the ship and materially diminish the weight of the old shell plates.

A millionaire might invest in a small yacht but for general purposes a copper hull is in the dim and distant future.

AN IMPROVEMENT IN CHRONOMETERS.

A recent English invention of great importance to navigators is a hermetically sealed chronometer to prevent the detrimental effects of the atmosphere and moisture on the mechanism. The invention consists in hermetically closing the casing of the chronometer, doing away with the keyhole, through which the air and moisture gained access to the works, and effecting the winding up of the chronometer by providing a flexible or elastic diaphragm. To the outside of this plate is attached a handle for imparting a to-and-fro-motion to the flexible disk, while to the inner surface is attached one part of a mechanical device such as ratchet gear, the movement of which is made to effect the winding up of the spring of the timepiece. By means of this device a greatly increased regularity in the action of the chronometer is insured, while it can at the same time be placed in damp localities where at present it is impossible to keep it in order. Shipmasters will appreciate this excellent device if only to insure the regularity of steady equal winding every 24 hours. Especially is this so when others are required temporarily to attend to the winding of this important piece of mechanism.

HISTORY OF LAKE NAVIGATION.

Some time since there was quite a furor created through the fact that a British ship had carried a cargo from Europe to Chicago without breaking bulk. The correspondent of a foreign exchange writes a foreign contemporary saying that he could give the names of over fifty vessels that have crossed and recrossed the Atlantic that were built on the lakes. A correct maritime history needs to be written up for the enlightenment of the public who are interested therein. Who will undertake the job?—*The New York Marine Journal*.

In volume 7 number 8, February 19, 1885, THE MARINE RECORD commenced the publication of the "History of Lake Navigation" devoting two and three columns each issue up till 1887 from which time a general resume of all matters pertaining to lake navigation has been duly heralded in these columns.

From consulting the RECORD files it is learned that the first vessel to cross the Atlantic from the lakes was the brigantine Pacific, Captain, George Todd, in 1844, with wheat and flour from Toronto to Liverpool. From that date up till 1856 nine other vessels reached salt water, seven bound for Liverpool and one each to New York and San Francisco, the propeller Ontario clearing from Buffalo for California in 1850. June 1856 saw the first departure from an upper lake port in the schooner Dean Richmond, Captain, D. C. Pierce, from Milwaukee to Liverpool with wheat. In 1857 there were but few departures, 1858 fifteen vessels are recorded as clearing from the lakes for salt water. 1859 forty-one cleared and in 1860 thirty nine including six side wheel steamers. So that the foreign correspondent whose letter appeared in London *Fairplay*, would not have far to seek to produce the names of several times more than he claims to remember. But the vessel or vessels alluded to broke bulk all right, and even the vast number of lake schooners used to finish loading at Montreal or Quebec, as a scant nine feet is but very light draft. As regards anyone again "Undertaking the Job" of writing up the past history of lake marine, it would be simply donating a sum of money to reproduce in different form what has already been published, and that too by the most reliable authority.

THE UNITED STATES LIGHT-HOUSE BOARD.

In the lists of aids to navigation published by the U. S. Light-House Board, Washington, D. C. it is requested that mariners and others interested in commerce and the preservation of life and property from loss by shipwreck on the coasts of the United States give prompt information to the district inspectors, or engineers, or by direct communication to the Light-House Board, of all cases of injury to, or unsatisfactory condition, or service of any aid to navigation, or of the necessity for additional aids, and of all cases in which lights are not exhibited punctually at sunset and extinguished at sunrise, when they are not promptly attended to during the night, when floating aids are out of position, and of all cases in which the published instructions are not strictly complied with, that the Board may, with as little delay as possible, apply the proper remedy and prevent neglect of duty on the part of persons connected with the aids to navigation of the United States. All lights of the United States on the northern and northwestern lakes and their adjacent navigable waters are exhibited from sunset to sunrise, at all seasons when vessels can enter

versant with the modern lake tonnage, besides having a large acquaintance among masters, mates and pilots. He was clerk with J. G. Mullen, in his coal and fueling business for two seasons, and about two years ago was promoted to the management of O. W. Shipman's coal business at Amherstburg, and was a generally well liked young man.

Last October he was taken ill, and although a slight turn for the better apparently set in a couple of months ago, he gradually failed until called hence. Many of our readers will be sorry to learn of the demise of their young business friend at Amherstburg, and we condole with his respected family in their great loss.

SAILING YACHTS.

This being the regatta week at Cleveland, we are enabled, through the courtesy of the Davis Boat and Oar Co., to present our readers with a cut of the famed yacht Alice Enright, designed by Mr. O. M. Hepburn, formerly of Toledo, O., but now with the above named company.

The Enright was built in 1885 for a number of gentlemen in Toledo, under a guarantee to outsail anything then owned at that port, and up to the present she has fulfilled her designers' expectations.

The specifications of the Enright are: Length over all, 44 feet 6 inches; length of water line, 34 feet 6 inches; beam, 10 feet; draft, 4 feet; keel, stem, stern post and frame of the best white oak; planking, 1 1/4 inches white pine; decks of pine, covered with canvas and thoroughly painted; cabin deck constructed diagonally of 3 inch thickness; no garlands; spars of pine, rigging of the best galvanized wire and manilla rope, patent blocks, etc.; canvas of 8 ounce yacht drill, double bighted; cabin finished plain in white and Norway pine, natural wood finish, brass dead lights; large companion way, furnishing light and air; floor of cockpit above water line, self-bailing, round hatch in forward deck to forecabin, and round hatch in after deck to sail locker.

A few of the trophies she has carried off are as follows: In her first race of twenty-one miles over a triangular course, although her topmast was carried away, she won easily, leading her nearest competitor, the "Scud," by 42 minutes, the "Oberon" 1 hour, and the "Kate Graham" 1 hour and 30 minutes.

At Put-in-Bay she came in first, carrying off the Put-in-Bay cup for the first time. She eventually won it three times, when it became her property. In her race sailed at Erie, she came in an easy winner of a purse of one hundred dollars. All the crack boats of Buffalo, Erie and Port Dover competed. She also won the Toledo Yacht Club Pennant Race, first prize, at Buffalo, second prize, at Put-in-Bay, Yacht Canon and Put-in-Bay Cup, first prize. The "City of the Straits," "Kate Graham," "Oberon," "Scud" and "Sylvia" competed. Middle Sister Cup, first prize. Same boats competed. Toledo Yacht Club Annual, Machen Cup, Alter Cup, first prizes, Sweepstakes Champion Flags and purse of seven hundred and fifty dollars, first prize. "Sylvia" and "Fancion" competed.

The "Notices to Mariners" printed in this issue, and giving the characteristics of lights in St. Mary's River, will probably be supplemented by another circular giving the remainder of the aids to navigation at an early date. Thirty-eight lights are authorized, and notice of but twenty-three is contained in circular No. 74 of 1892.



THE ALICE ENRIGHT.

the ports, or are navigating in their vicinity. The dates of discontinuing and relighting the lights vary with the seasons; but keepers will be careful to exhibit lights whenever of use to navigators.

All buoys in the lakes and their adjacent waters are kept on their respective stations as long as possible in the fall without running the risk of their loss by being caught in the ice; and are promptly replaced in the spring after the ice leaves.

OBITUARY NOTICE.

THOMAS R. PARK.

We regret to have to announce the final departure of Mr. Thomas R. Park, of Amherstburg, Ont., who passed away peacefully last Thursday morning, surrounded by his family and a number of friends.

Vesselmen stopping at Amherstburg were sure to meet Mr. Parks, for he always took a personal as well as business interest in marine affairs, and he was thoroughly con-

MARINE DIVISION—WORLD'S FAIR NOTES.

The old whaling bark "Progress," with her extensive museum of marine curios and relics of whaling voyages, is now in the harbor at Chicago, and is being visited by hundreds of people.

The pilot commission of New York has decided to make an exhibit at the World's Fair in the Transportation department. A model of a pilot boat, on the scale of one-half inch to the foot, and a number of oil paintings illustrating the pilot service will be in the exhibit.

The Hoboken Ferry company of New York wants to show a fac-simile model of the twin screw steamer at the World's Fair, built in 1805, with original engines and boiler. As a contrast to this venerable craft it will show the model of a modern screw ferry boat, the Hamburg, built in 1892.

The Electric Launch and Navigation Company of New York has been awarded the contract for running electric boats on the interior waterways at Jackson park during the World's Fair. It will pay the Exposition 33 1/4 per cent. of the gross receipts. These boats will convey visitors from one point to another or on a general three mile tour of the grounds, as desired. Such a tour affords some of the finest views of the buildings and grounds, and is sure to be popular.

Chief Willard A. Smith of the Transportation Department of the World's Fair has secured for exhibition one of the old French voyager's boats, which he found in the State Historical Museum of Wisconsin, at Madison. The boat is an old batteau of the pattern used by the French-Canadian fur traders in their voyages on the lakes and rivers of the Northwest before Illinois or Wisconsin had been organized as territories. It is a leviathan of canoes, weighing 1,100 pounds, is thirty feet long, and in its day carried eighteen men and over a ton of goods for the Indian trade. Secretary Thwait of the Wisconsin Historical Museum, on one of his canoe trips two years ago, found this relic, water-logged, on the banks of the upper St. Croix, and had it conveyed to Madison.

MANUFACTURING WINDLASSES AND CAPSTANS.

There is no more prominent marine industry in the United States than that of manufacturing windlasses and capstans for the use of the various classes of tonnage put afloat each year. The American Ship Windlass Co., of Providence, R. I., established in 1857, is the leading plant in this special manufacture, and so adept have their skilled workmen become, that within the past few years the price of all ground tackle mechanism has been reduced fully 25 per cent. on former close margins. Special tools, patent machinery, and a liberal equipment, with energetic management, has, of course, had much to do with the reduction in the price of some of the most important portions of a ship's outfit, but, it is safe to say that this great industry would not have been what it is to-day if foreign nations had been allowed to build and equip American tonnage.

It is also gratifying to note that the export trade of American capstans and windlasses has now reached a special feature in the manufacture, and that shipments are made from Providence, R. I., to all civilized portions of the world, for the purpose of equipping foreign yachts, merchantmen, and naval tonnage.

WELLAND CANAL STATISTICS.

The following statement shows the total quantity of freight passed through the Welland Canal, and the quantity passed through the canal between United States ports, during the fiscal years ended 30th June, 1867 to 1891, inclusive:

YEARS.	TOTAL. Tons.	U. S. PORTS. Tons.
1867.....	933,260	458,386
1868.....	1,161,821	641,711
1869.....	1,231,903	688,700
1870.....	1,311,956	747,756
1871.....	1,478,122	772,567
1872.....	1,319,996	638,039
1873.....	1,391,692	634,913
1874.....	1,540,981	703,185
1875.....	1,142,853	595,217
1876.....	1,121,802	524,197
1877.....	1,126,429	482,878
1878.....	1,091,898	448,413
1879.....	918,924	361,304
1880.....	896,122	248,944
1881.....	798,809	196,285
1882.....	644,727	191,817
1883.....	861,634	337,619
1884.....	965,830	417,972
1885.....	839,521	416,825
1886.....	934,862	443,921
1887.....	838,587	387,109
1888.....	827,300	387,555
1889.....	938,254	464,415
1890.....	1,104,553	550,844
1891.....	959,502	563,856

It will be seen by the foregoing figures that the largest quantity of freight passed through the Welland Canal since 1867 was during the fiscal year of 1874, when the quantity was 1,540,981 tons.

The smallest quantity passed through in any one year was in 1882, when the quantity decreased to 644,727 tons; in 1890 the quantity increased to 1,104,553 tons, and decreased in 1891 to 959,502 tons.

The largest tonnage passed through the Welland Canal, between United States ports, for the same period, was during the fiscal year of 1871, the quantity being 747,756 tons, the quantity, however, decreased to 191,817 tons in 1882, but has since gradually increased to 563,856 tons in 1891.

THE STEAMBOAT INSPECTION SERVICE.

The annual report of the Supervising Inspectors of Steam Vessels, just received, contains the following interesting statistics for the year ending Dec. 31, 1891: Total number of steamers inspected in the United States 7,527, with a net tonnage of 1,523,303 22; number of boilers inspected, 10,453; number found defective, 748; increase of steamers inspected over previous year, 327; increase of tonnage, 38,281.14. Number of masters who have licenses, 9,171; number of pilots, 8,301; number of engineers, 16,033; number of mates, 2,166; number of joint pilots' and engineers' licenses issued, 278, making a total of 35,949 licensed steam vessel officers in the United States. Total number of lives lost 205; decrease from the previous year, 163; value of steam vessel property lost by all causes for the year, \$1,691,746—a decrease from the year previous of \$64,648.70.

NOTICE TO MARINERS.

Notice is hereby given that a small shoal, gravel and boulders, has been found 900 yards west, 3/4 south of the Waughoshance 18 foot shoal buoy. The least depth of water over this shoal is 15 feet 10 inches. A second-class nun buoy painted black has been placed in 23 feet of water 15 yards northwest of the shoal. The position of the buoy is as follows: Waughoshance Light Station, S. E. by S. 1 1/4 miles; St. Helena Light Station, E. N. E. 1/2, E. 12 1/2 miles; White Shoal, Light Vessel, N. W. by N., 2 3/4 miles; Grays Reef Light Vessel, W. S. W. 3/4, W. 4 miles. The buoy is on a line between Waughoshance Light Station and White Shoal Light Vessel and nearly on a line between St. Helena Light Station and Gray's Reef Light Vessel. These ranges should be useful in turning this buoy at night. The red and black nun buoy on the 18 foot shoal has been removed.

By order of the Lighthouse Board, Commander NICOLL LUDLOW, U. S. A., Inspector 9th Lighthouse District.

ST. MARY'S RIVER LIGHTS.

Notice is hereby given that the following described aids to navigation have been established on the St. Marys River, Michigan:

Sweets Point.—A fixed white lens lantern light, showing through 360° of arc, on a crib structure standing in 7 feet of water. Marks the turning point in the channel, and guides up the river to the northward and westward.

Winter Point Range.—Two fixed white lens-lantern lights, showing through 270° of arc. The front light is shown from an upright on a cluster of piles and the rear light from an iron skeleton tower on the southern end of Neebish Island. The range guides up to or down from the mid channel buoy in Mud Lake.

Encampment Crib.—A fixed red tubular-lantern light, shown from an upright on a crib in 8 feet of water, off the southern end of Sailors Encampment. Marks a shoal and the western side of the entrance to Sailors Encampment passage.

East Range, Dark Hole.—Two fixed red tubular-lantern lights, shown from uprights on the upper end of Sailors Encampment. The range intersects with Point of Woods Range to mark the turning point in the channel, and leads to or from an intersection with the channel marked by the West Range, Dark Hole.

West Range, Dark Hole.—Two fixed white tubular-lantern lights, shown from uprights on the upper end of Sailors Encampment. The range intersects with East Range, Dark Hole, to mark the turning point in the channel, and leads to or from abreast the second black spar buoy below Harwoods Point.

Point of Woods Range.—Two fixed red tubular-lantern lights, shown from uprights on the eastern side of Neebish Island. This range guides through the Dark Hole passage, and by its intersection with the West Range, Dark Hole, marks the turning point to or from the lower reach of Little Mud Lake.

Hen and Chickens (Neebish Island) Range.—Two fixed red tubular-lantern lights, shown from uprights. The front light is on the most easterly of the small group of islands known as the Hen and Chickens, and the rear light is on the northeasterly shore of Neebish Island. The range guides through the passage between Sugar Island and St. Joseph Island (Canadian.)

East Neebish Range.—Two fixed red tubular-lantern lights, on uprights on Sugar Island at the foot of East Neebish. The range guides through the upper reach of East Neebish and its intersection with Indian Point Range marks the turning point.

Indian Point Range.—Two fixed white tubular-lantern lights, on uprights on Indian Point, East Neebish. The range guides through the lower reach of East Neebish and its intersection with East Neebish Range marks the turning point.

Duck Island Range.—Two fixed red tubular-lantern lights, on uprights near the water's edge on the channel side of the lower end of Duck Island, above East Neebish. The range shows upstream towards the lower Lake George crib-light, and the range between these may be followed from the crib down to abreast of the head of Duck Island.

Lower Lake George.—A fixed white tubular-lantern light, on an upright rising from a crib 50 feet from the east side of the lower end of the main Lake George Channel.

Middle Lake George.—A fixed red tubular-lantern light, on top of a dwelling resting on a crib 50 feet from the east side of the main Lake George Channel, at the elbow.

Upper Lake George.—A fixed red lens lantern light, on an upright rising from a crib 50 feet from the east side of the upper end of the main Lake George Channel, and marks the northerly entrance into the dredged cut.

NOTE.—The three lake George lights marks the entrance into, the elbow of, and the outlet from the main channel of Lake George.

Church's Point.—A fixed white lens-lantern light, on an upright rising from a crib in 14 feet of water, at the head of Lake George. Marks the approach to the passage between Sugar and Squirrel Islands, and is to be left to the westward by vessels bound either way.

Manhattan Shoal.—A fixed red and white lens-lantern light, on an upright rising from a crib on a 10-foot shoal off the N. E. end of Sugar Island. The light shows red up and down stream and white between. The down stream line between the white and red light marks the turn to the eastward to be made midway in the bend, and the like line up stream shows where the deflection is to be made to pass into or from the Garden River reach.

Catholic Mission Range.—Two fixed white tubular-lantern lights on uprights on the south shore of Little Lake George, north end of Sugar Island. The range marks the upper reach of Little Lake George, and its intersection with Payment Range marks the turning point.

Payment Range.—Two fixed red tubular-lantern lights, on uprights on the south shore of Little Lake George, north end of Sugar Island. The range marks the lower reach of Little Lake George, and its intersection with the Catholic Mission Range marks the turning point.

Palmer's Point.—A fixed white lens-lantern light, with two fixed red sectors, on an upright rising from a crib on the channel bank off Palmer's Point, upper end of Little Lake George. The northerly edge of the eastern red sector cuts the first black buoy below the light and the northerly edge of the western red sector cuts the first black buoy above Wilson's Wharf, thus marking the two turning points.

Farmers Ridges Range.—Two fixed red tubular-lantern lights, on uprights on the northwest side of Sugar Island. The range guides through the Farmer's Ridges passage.

Partridge Point Range.—Two fixed red tubular-lantern lights, on uprights on the northwestern side of Sugar Island. The range intersects with Farmers Ridges range to mark the turning point in the channel abreast of Brunsants Point.

Topsail Island Range.—Two fixed red tubular lantern lights, on uprights on the northwestern side of Sugar Island. The range intersects with Sault range to lead clear of the shoal extending southward from Topsail Island, and also intersects with Farmers Ridges range at the turning point in the channel.

Bayfield Rock Range.—Two fixed white tubular lantern lights, on uprights on the northwestern side of Sugar Island. The range leads past Bayfield Rock to the lower end of the canal, intersecting with Sault range to make the channel clear of Topsail Island Shoal.

Sault Range.—Two fixed red tubular lantern lights, on uprights on shore below the city of Sault Ste. Marie. Intersects with Bayfield Rock range to mark the channel to the intersection of Topsail Island range, and also marks the turning point in the channel on the Bayfield Rock range leading up to the lower entrance to the canal.

By order of the Light House Board, JAMES A. GREER, Rear Admiral, U. S. Navy, Chairman. Office of the Light House Board, Washington, D. C., August 11, 1892.

INQUIRY INTO THE LOSS OF SHIPPING.

The July number of the *Nautical Magazine* contains an article on the causes of marine casualties which points out very forcibly how an apparently trifling oversight or disobedience to instructions, be they ever so slight, may at times cause a serious disaster.

The stranding of the Minna on the coast of Brazil was caused by the fact that the master kept away for a boat supposed to contain a pilot, notwithstanding the fact that his sailing directions stated distinctly that pilots never ventured outside the port.

The steamer Derwentwater was lost because her officer mistook the light of Cape Finisterre for that of an approaching steamer.

Casualties to ships, concerning which inquiries have been held at home ports during the period embraced by the twelve numbers of the Magazine for 1891, may fairly be classed under the following heads: Neglect of the lead; negligent navigation; stress of weather; collision; erroneous inferences with respect to lights, soundings, tides and currents; explosion; foundering; fire; and unknown dangers. Forty-one vessels were incautiously navigated; 21 came to grief by neglect of the lead; 18 suffered through stress of weather; there were 14 cases of collision affecting 28 ships; 9 were endangered by erroneous references with respect to lights and currents; 4 struck unknown submerged dangers; one was burnt; one was damaged by an explosion caused by coal gas coming into contact with a naked light; and one ship has not been heard of since leaving England. Not one of these ships was proved to have been faulty in construction or overladen.

THE list of lights and fog signals for the Northern lakes and rivers, connected up to the opening of navigation 1892 has just been issued. A copy will be sent free to any Shipmaster on application to the office of the Light-House Board, Washington, D. C., or to the offices of the Light-House Inspectors at Chicago, Buffalo, or Detroit.

The Marine Record,

ESTABLISHED 1878.

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CLEVELAND, O., AUGUST 18, 1892.

A MEETING of the State weather forecast officials of the United States Weather Bureau, with Mark W. Harrington, Chief of the Weather Bureau, presiding, was held in Rochester, N. Y., this week. A permanent organization will be formed under the name of the American Association of State Weather Observers.

SEABOARD, of New York, in a two-column editorial endorses our advocacy of a proper system of investigation into important wrecks, collisions and loss of life. The article is a pertinent one, and failing the immediate re-organization of the several disjointed bureaus now in charge of the mercantile marine of the country, the Hon. Edward C. O'Brien, Commissioner of Navigation, should institute such measures as would lead to the appointment of at least one qualified wreck commissioner, who, with local assistance, as nautical assessors, and the district attorney, might form a competent court to adjudicate on matters technical.

YACHTING interests on the Great Lakes has come more to the front this season than ever before, and there is every indication that this excellent and health-giving recreation will be indulged in to a much greater extent in the future than it ever has been in the past. The World's Fair will do much to bring to the attention of those living near the borders of the lake the unexcelled yachting opportunities they enjoy, and the large fleet of boats that is expected to arrive will undoubtedly popularize floating locomotion. Detroit is the only port on the chain of lakes that appreciates to the fullest extent its splendid water frontage, and the moderate, if not low rates charged by all ferry lines, induce the citizens of the "City of the Straits" to recreate in the full enjoyment of their aquatic natural advantages.

THE future importance of Lake Superior commerce has been adequately realized by the corps of engineers, U. S. A., in carrying out plans for a duplicate channel as well as the extra large new lock and canal deepening at Sault Ste. Marie. It is noteworthy, as an indication of the increase in tonnage, that the total valuation of all the vessels passing through the canal in 1887, was \$19,773,950, against a valuation of \$29,635,500, in 1890, a most gratifying increase for the short period of only three years. The improvement of the southern channel of the St. Mary's river below the falls, known as the Hay Lake Channel, will give a twenty feet navigable depth three hundred feet wide, and saving a distance of eleven miles, besides giving a route which can be navigated at night, a feature which does not meet with general approval in the present channel, no matter how well lighted it may be, although of a clear moonlight night, and especially with light draft vessels, chances will always be taken if the river is well lighted with close ranges.

AND now it is learned that the findings of a court-martial adjudge the color-blindness of an officer responsible for running the U. S. S. Alliance aground. The commanding officer of a United States man-of-war is responsible for the safety of his ship. In this case the vessel was being navigated by a subordinate officer who, through color blindness, mistook a green buoy for a red one while conning the ship out of the harbor of Yokohama. The accident happened in broad daylight, and the commander has been relieved from duty in consequence of the officers' physical defect. Certainly, the commander is responsible for the casualty, but who is responsible for the cause of it? If color-blind officers are permitted to take charge of the deck of a man-of-war, what physical defects may be allowed in the officers who take charge in our merchant service. Court-martial-like wreck courts of inquiry, not unfrequently disclose

singular, though pertinent reasons for not sailing safely. Is there any reason why a wreck court of inquiry should not be established in the United States? Let us know what the evils and dangers are, so that they may be timely avoided.

THE question of limiting the harbor improvements now being carried on at Buffalo is a general rather than a local issue, and as such the views of all prominent vessel owners would no doubt be of value in determining the result of a change of plans. The objective point in permanent river and harbor work on the Great Lakes is to make or allow adequate provision for the future increase of commerce. To do this it is necessary to compare the lake tonnage and commerce of to-day with what it was only a decade ago, and then apply the indicated progression in a liberal manner. Any steps taken towards a curtailment of facilities should be looked upon as a retrogression. It is also well to remember that even those most interested in the lake marine hardly yet realize the fast changes which are being regularly brought about in the transportation and commercial industry of the lakes, although none are better able to grasp the subject intelligently. If an expression of opinion regarding the alteration of important plans is of service to the department, then a diagram of the proposed changes ought to be mailed to each vessel owner and his views thereon given due weight.

COLOR BLINDNESS.

The subject of color blindness is not given that prominence of attention in the United States mercantile marine to which it is so justly entitled, and in the absence of any proper system of inquiry into the causes leading up to the various maritime casualties, it is impossible for any one to judge to what extent color blindness is responsible for the many so-called accidents.

As we have frequently pointed out, the licensing power, so liberally granted to local inspectors is not now lived up to with that strict uniformity essential to the best interests of the service and the rights of American citizenship, as for instance, a candidate failing in his examination in one district, has been able to secure the honors in another. Districts are also singled out for severity or laxity, thus placing a premium on incompetency and discriminating where qualifications and honors should be uniform.

This system has always pervaded competitive examinations in every instance where honors are sought after, and needs to be strictly guarded against, so as to reduce the evils to a minimum. Just how it affects the licensing service is shown in the loose wording of the law, which states that steamboat pilots shall be examined for color-blindness before the issuance of an original license. Masters and mates, therefore, are not strictly included in this clause, although the clause itself may be modified or contradicted by some other clause, so aptly sinuous and enigmatical are the qualifying paragraphs woven into the rules of licensing and inspection.

The recent change in the system of examination for licenses from *viva voce* to written would now furnish the board of supervising inspectors with the means of ascertaining the standard qualifications required by the various local inspectors, and point out those ports where a lax or imperfect series of questioning obtained. By this means all honors could be made to conform with the highest standard of efficiency and a uniform code maintained throughout the country.

INADEQUATE LIGHTS.

The following communication has been received from Captain P. L. Miller, Master of the steamer Joliet, by Captain McKay by whom it has been forwarded to Commander John J. Read, Inspector of the 11th Light-House District:

"I wish to call your attention to the range lights at Pt. Edwards and Fort Gratiot. The red light on the Pt. Edwards range is of so small a calibre it is of no use. We have to be so close down into the shoal water before we can pick up the red light that it is impossible for us to get on to the range in time. If these lights are placed there for us to go in at all times of night, they should be in such shape that we can get on to the range far enough out to avoid any trouble before we get into the shoal water. If we are to have them to depend on, they ought to be of a size so that we can pick them up readily at the proper distance out. The white light seems large enough, but the red light is so small, that for the last two or three trips I have had to go in having the range bear S $\frac{1}{2}$ E by our compass.

Of course we are taking chances in doing this, which I do not wish to do again, as a little variation would cause us to go over on those "lumps" where the stakes are placed. In regard to the Fort Gratiot lights, would say they were both out on our last trip down, about 2:30 in the morning, 13 Inst."

RAILROAD TRANSFER FERRY BARGES.

The new barges or transports which the Craig Shipbuilding Company is at work on for the Toledo, Ann Arbor & North Michigan railroad, to be used in ferrying cars across Lake Michigan from Frankfort to Kewaunee, are being constructed as rapidly as that class of work will permit. Both boats will be powerful vessels, and will be built especially, so that they can withstand the storms of Lake Michigan. The model of the new barges is a combination of the Atlantic ferry boat used in crossing Chesapeake Bay, and the ferry boats used on the Detroit and St. Clair rivers. Each barge will be supplied with powerful engines which will drive twin screw wheels ten feet in diameter in the stern; also a large wheel in the bow which will be used as an ice crusher. The dimensions of both steamers will be as follows: Length over all, 250 feet, beam, 52 feet; depth of hold, 16 feet. The hulls will be of wood, diagonally strapped with steel cords running the entire length of the vessel. Each steamer will carry 24 loaded freight cars, and it is claimed that each car can be transported across the lake at a cost of \$2 by this means, against a cost of \$7 per car when bulk has to be broken.

There will be four tracks on each steamer, each of which will hold six cars. There will be a high-pressure engine on each of the steamers, so that in case of accident to the low-pressure engine, the boats can be safely landed by the working of the high-pressure engine.

Each boat will be furnished with an electric light plant, with electric search-lights of 5,000 candle power. These search-lights will prove of great value on entering narrow harbors and slips at night. The cost of each steam barge will be \$175,000, but with the extras the cost of each will fall little short of \$190,000. It is expected that one of the barges will be launched about the first of October.

CAPTAIN HEALY, of the revenue cutter Bear, in a report to the Treasury Department, calls attention to the fact, that a dozen vessels running between the Pacific slope and Alaskan ports have no licensed masters or engineers. It would be interesting to know how, or why, these vessels are allowed to clear from a custom house without complying with the laws. There has been a laxity at many points in this respect, and the Collectors of Customs should see that no clearance papers are made out until the law has been complied with in the matter of licensed officers.

PERSONAL.

Manager Evans of the Erie & Western Transportation Co., visited Cleveland on Monday, returning to Buffalo in the evening.

Among the arrivals expected from Europe this week are the Hon. George H. Ely and Mr. Thos. Bristow Superintendent at the yards of the Cleveland Ship Building Co. Mr. William Wilson of the Wilson Transit Line, returned on Tuesday, after spending a most enjoyable vacation.

General Abbott, Corps of Engineers U. S. A., visited Cleveland on Monday, on business connected with the river and harbor works.

Captain Thew, patentee of the automatic ore trimming shovel, favored this office with a call on Wednesday and stated that his steam shovels will be placed on board of steamer in the ore trade at an early date.

Mr. Charles B. Calder, Superintendent Engineer of the Menominee and Mutual Lines of Steamers has been attending to the fleet so closely as almost to be entitled to a vote, at Ashtabula or the Harbor. The efficiency and regularity in the trips of these handsome steamers show clearly how his time is spent, although he was sighted on a flying visit to Cleveland this week.

Captain George Davis, Erie, Pa., brought his handsome steam yacht, Tallalusa to Cleveland, to attend the regatta this week. A number of the Captain's friends accompanied him and they all enjoyed themselves.

Mr. George Presley, who is well known by all Cleveland vessel men is again hale and hearty after a somewhat lengthy spell of indifferent health. Mr. Presley has always been a firm prohibitionist and to this fact perhaps more than to any other cause may be traced the robust constitution which he now enjoys.

Mr. Walfrid Sylven, Chief Engineer Superintendent of the Light-House Board, visited Cleveland this week and looked over the handsome new light-house tender Columbine at the Globe Iron Works shipyard. Both the Lilac and Columbine were built under the superintendence of Mr. Ernest Janson, naval constructor of the Light-House Board, from plans designed and prepared by Mr. Walfrid Sylven.

H. J. Webb, the well-known pioneer vessel broker of Cleveland, returned to business on Wednesday after spending an enjoyable vacation in the Old World. We are pleased to say that Mr. Webb looks very much improved and his health we are assured is A 1*.

Mr. R. K. Winslow is quite actively attending to his vessel business these days, and seems good enough to wear out many of the more rugged constitutions in spite of his recent illness.

CHICAGO.

A yacht club has just been incorporated with Robert Rae, Commodore; Charles McDonald Vice Commodore; James Dunham, Captain of the fleet; Charles Cramer, Secretary; Hugh MacMillan, Treasurer. A World's Fair regatta that will discount anything ever seen on fresh water will take place next summer.

Many applications are being received by Collector Clark from parents who are anxious to place their boys on board a training ship and subject them to navy discipline until they are of age. Captain Wingate, of the man-of-war Michigan, who is now in this port, will receive such boys next Tuesday. Only those between the ages of 14 and 17 will be received, and all will be rejected who are not four feet nine inches in height and can not read and write, and who are not in good bodily health.

Pe'er Phillips, better known as French Pe'e, fell from the mizen mast head of the barge Churchill lying at a dock at Ashland avenue, Monday morning, the poor fellow was instantly killed. He was buried at Calvary Cemetery Tuesday morning by the Seamen's Union and about 300 of his sailor comrades followed him to the grave. He was well known and greatly respected. New Orleans papers are requested to copy.

J. B. Bates & Co. shipbuilders are making a bowsprit and jibboom for the schooner City of Toledo, a new bowsprit for the schooner I. B. Wade, they have given the schooner Surprise a new port quarter, the steamer Peerless and schooner Elgin some repairs.

The new steamer Maritana, built by the Chicago Ship Building Co., will be given a trial trip on Thursday. A large number of invitations have been issued.

At Miller Brothers Shipyard the steamer Samoa was in dock and received a new wheel and shoe and repairs to her rudder. Donaldson Brothers, ship smiths, supplied the shoe.

The Graham & Morton Steamer Chicora, built by the Chicago Dry Dock Co., arrived here Tuesday night. She is a splendid passenger steamer and will add greatly to the renown of the well known line who own her, and to her builders.

Grain freights are steady today, Thursday, at 2 1/4 cents on wheat to Buffalo.

Lumber freights are on the rise, one shilling per thousand is being offered freely.

The Anchor Line Company's steamer Codorus arrived here last Thursday evening.

WILLIAMS.

MILWAUKEE, WIS.

Special Correspondence to The Marine Record.

The Sheriffs Manufacturing Co. are building two 12 by 16 high pressure engines for a twin screw steamer building at New Orleans for McEwen & Murray for towing logs on Lake Pontchartrain. They are also supplying the steamer with two 5 feet wheels. The company put a new engine 10 by 12 in the tug Hoffmung last week. They shipped one of their new improved steering engines to the steamer E. A. Shores at Sheloyan. They are making a new crank and shaft for the steamer Lora and a crank shaft for the tug Gillen at Racine. The Sheriffs Manufacturing Company will exhibit at the World's Fair two pyramids of Sheriffs wheels each of which will be built up of 26 Sheriffs wheels ranging in size from 13 feet to 11 inches in diameter. It will be a very fine exhibit in the Transportation Building.

Frank Rhan, the submarine diver, formerly of Chicago, is doing splendid work laying 10,000 feet of 5 feet pipes for the inlet from the new water works crib. He has this season already laid 90 sections of pipe 48 feet long. He is doing the work with the steam scow Two Henrys, which saved the tug Mollie Spencer and her crew from destruction two years ago.

The Milwaukee Dry Dock Co. have built and launched this week a large flatiron shaped dredge for the American Hydraulic Dredging Co. of Chicago. It will be provided with a centrifugal pump and a ladder with a cutter at the end which will stir up the dirt and the suction pump which is attached to the ladder will suck up the dirt, which will be conveyed by the centrifugal pump through pipes to any distance required.

The Milwaukee Dry Dock Co. have made many alterations and improvements in the old Wolf & Davidson shipyard. They have built extensive new buildings and have added a new steam hammer and a Mully saw mill. They are also making considerable alterations and improvements at their West Side shipyard.

The Milwaukee Boiler Co. have recently built and shipped to Superior City two Scotch type boiler 12 by 13 feet, to be allowed 160 lbs. steam pressure for one of the new whaleback steamers building there. WILLIAMS.

MANISTEE, MICH.

Special Correspondence to The Marine Record.

There is excellent business doing at this port. Manistee Lake is well covered with logs, and many of the mills are running night and day. A large number of steam barges and sail vessels arrive daily, and take on as large loads as they can carry across Lake Michigan.

R. Thorson & Co., Shipbuilders, are taking the masts, jibboom, anchors, chains, and center board out of the schooner Mediator, and will place her on their dock where she is to receive new keel and keelson, bottom planking, floor ceiling, a new deck and center board box; general repairs and recalking. The schooner Live Oak was on their dock and had a leak stopped; the steamer Seymour, Jr. had her stern bearing fixed, and a leak stopped. This firm have recently built a very handsome tug 70 feet long, 16 feet beam, 8 feet hold, named the Frank Barnes, for the Canfield Tug Line. They had the steam barge Hattie B. Perene on their dock for new bilge ceiling and recalking, and a new engine bed frame; the tug Leatham, of Sturgeon Bay, for a new engine bed frame; the schooner Arendal received a general rebuild; Seymour Bros.' steamer Skater received considerable repairs and false sides; the U. S. steamer C. Williams was on the dock for repairs. The schooner Mary B. Hale received a new stern, new frames and ceiling, general repairs and re-calking. The firm also built a steam yacht 60 feet long, 11 feet beam, 6 feet hold for Bowie & Somerville, Manistee. She is a very handsome craft.

Your correspondent visited the Life-Saving Station and found Capt. John Hanson and his fine crew of life-savers and the life-boats and life-saving appliances in splendid condition.

Seymour Brothers are building a new warehouse 100 feet by 40 feet at their dock fronting the river. Their steamers Petoskey and Puritan are doing an excellent passenger and freight business. WILLIAMS.

PORT ARTHUR, ONT.

Special Correspondence to the Marine Record.

The tow barge Iron Cliff, followed the steamer Monarch of the N. W. T. Co. in grounding at Fort William last week and it took two tugs six hours hard work to release her. The mouth of this river with the long name should be guarded against by vessel men. The United Empire of the N. W. T. Co. ran ashore on North Welcome Island in Thunder Bay, L. S. in a fog, but was released by tug Salty Jack without damage. Wonder if the fog deflected the compass, were the regular rise and fall of tides allowed for, or are variable currents to blame for the singular strandings on this lake?

BUFFALO HARBOR.

A board of officers drew up plans in 1845 for protecting Buffalo harbor and the plans were again endorsed by the Corps of Engineers U. S. A. in 1874. It is now thought by Major Ruffner, Engineer of the district, and his views have been supported by several local vesselmen, that the work may be completed at an early date by limiting the original plans so as to give only 1 1/2 miles of a protected outer harbor, a project which is ridiculed by the principal lake line managers. By following out the original plan about five miles of shore front would be protected, but nearly \$2,000,000 more would be necessary to finish the work. By the latter plan a shore arm would be built protecting only 1 1/2 miles of frontage, and, it is said, next year would see the undertaking accomplished. The entire question is, whether the long breakwater shall be carried northward towards Stony Point, or be turned inward to form a closed harbor in connection with the sandcatcher pier, which comes to land about opposite the foot of Louisiana street. General Abbott of the Corps of Engineers held a conference at the Engineer Office on Wednesday, at which all interested were asked to attend, so that the pros and cons might be fully recorded for further consideration. It is not expected that a decision will be arrived at until all the evidence has been carefully gone over, and the new plans thoroughly understood in their relation to the commerce of the port.

THE FREIGHT SITUATION.

The situation in ore freights is decidedly weak as compared with the status of affairs a week ago. The Escanaba rate has dropped from 80 to 75 cents, and several boats have gone in at Two Harbors to load for South Chicago at \$1.05. The Duluth wheat rate is quoted at 3 cents and the Chicago rate at 2 1/2 cents, with about an even chance of rising or falling during the next day or two. Coal rates are stiffer to Lake Michigan, but the rates are as yet inclined to be irregular; 45 cents is being paid to Escanaba, and 80 cents has been secured by boats to Kenosha. The Chicago and Milwaukee rates remain the same as last week.

The situation at Buffalo has grown serious as a result of the switchmen's strike there, and a blockade has resulted, which may affect grain rates. It is hoped that the present gloomy outlook will disappear when business resumes its normal state of activity through a cessation of the labor strikes.

CAPT. D. R. ROBBINS, Superintendent of the Life Saving Service, is seriously ill and his friends are very much exercised over the outcome of his sudden attack.

A CHASE ACROSS THE ATLANTIC.

The Cunarder Aurania has scored a victory over her rival the Alaska of the Guion line in a race from Queenstown to New York. Both vessels cleared from Queenstown within fifty-five minutes of each other on the afternoon of August 7. The Alaska was the first to pass the Fastnet, and during the entire trip across the Atlantic, the big steamers were within sight of each other. They arrived at Sandy Hook last Sunday together. The Aurania's time was 6 days, 19 hours and 43 minutes, and her rival's, 6 days, 20 hours and 38 minutes.

THE "GLOBE" WILL BUILD A LARGE STEEL STEAMER.

The Globe Iron Works Co. will lay the keel on builders' account for a large steel steamer, to be built on the same lines as the recently launched Mariposa, built to the order of the Minnesota Steamship Co.

The general dimensions of the new boat are 353 feet over all, 335 feet keel, 45 feet beam, and 24 feet 6 inches depth of hold. She will carry 4,000 tons on a draft of 16 feet, at an estimated speed of 14 miles an hour. The engines are to be triple expansion, cylinders 24, 39 and 63 by 48 inch stroke. Three Scotch type boilers 12 feet in diameter by 12 feet in length, with three Adamson furnaces in each, and tested for 175 pounds steam. The auxiliary machinery will consist of one centrifugal and one duplex pump for water ballast purposes, one vertical duplex boiler feeder, and an electric light plant, which has already been contracted for, steam windlass, capstans, and steam steering gear will all be furnished by the builders from their own patents. The air pumps, feed, bilge, and cold water pumps will be worked from the main engine. She will also be fitted with a sectional four-bladed "Globe" wheel, 14 1/2 feet in diameter and 18 feet pitch.

PRESENT STATUS OF THE CANAL TOLLS QUESTION.

A council was held in Montreal on Saturday by the Dominion Cabinet Officers, which lasted all day and although no detailed account of the subjects under discussion has yet been given out for publication it is learned that in pursuance of the views of the Government as to the temporary character of the existing order in council respecting canal tolls, and of its future policy in that behalf, the contemplated termination of the existing system will be fixed at the end of the present season, and that to prevent the continuance of the misunderstanding which appears to prevail in the United States on the subject, an assurance to that effect will be given to the Washington Government. The numerous contracts and engagements which have been entered into for the present season under the existing regulations render it practically impossible to make any earlier change, in consequence of the injury which would be caused to companies and individuals in the performance of their obligations.

FLOTSAM, JETSAM AND LAGAN.

Frequent scares are given through steamers passing too close when there is plenty of room to sheer away. At such times the aggrieved often wishes for a gun full of peas to shoot at the offender, though if both officers were overcome with the same propensity it would be difficult to tell which would come out best. There is evidently one man on the lakes who "don't want no foolin' around," for he hauled off last week on Lake Huron and banged away a couple of good cartridges at the officer of the deck on the propeller Inter Ocean just to remind him, by the way, that within pistol shot was near enough to be considered a safe and civil distance when under way. The name of this positively correct aggressor or that of his vessel has not been learned up to the present, though it will come around later.

The grain cargoes from Toledo elevators are turning out fairly well as regards shortages, although the schooner W. H. Rounds lost 37 bushels on her cargo of wheat to Buffalo last week.

The steamer Brazil loaded 162,000 bushels of oats last week in Chicago. This is the largest cargo of oats ever carried on the lakes.

The largest raft ever floated on the Great Lakes has arrived at East Tawas, Mich., from Georgian Bay. It contained 90,000 logs and covered 100 acres in area. Two weeks had been taken in towing it to East Tawas, a distance not exceeding 150 miles.

Fifteen feet draft has been found on several occasions at the "Soo" and now the official order will allow 14 feet 9 inches to be taken over the miter sill of the lock.

Captain Gess, of the schooner Hattie Earl, of Milwaukee, committed suicide by jumping overboard from his vessel on Lake Michigan last Thursday.

The union marine firemen are on a strike for a raise of wages, and some of the boats are having trouble to get firemen at the card rate, \$37.50 per month. The union men want a raise to \$45. This the vessel men refuse to pay at present and many are shipping non-union men.

TRANSATLANTIC TRAVEL.

The White Star Line has contracted with the Belfast ship-builders, Messrs Harland & Wolff, for a passenger steamer 839 feet in length, to be delivered next season; presumably to accommodate a portion of the tremendous number of visitors who will cross the pond to attend the World's Fair.

Two new Cunard steamers, built by the well known firm of John Elder & Co., Glasgow, will be launched early in September, and equipped ready for service in the early Spring of 1893. The general dimensions of these sister ships, named the *Campania* and *Lucania*, are 700 feet in length, and 70 feet beam. Accommodation will be provided for about 3,000 passengers, and a crew of about 250 hands, all told. Two sets of quadruple expansion engines of 30,000 horse power with twin screws, are guaranteed to drive these floating islands at a speed of 23 miles an hour.

THE Inman Steamship Company is evidently thinking of giving up Liverpool as a port of arrival and departure of its steamers. Authorities of the town of Southampton have agreed if the Inman Company promises to move their line to that port for ten years they will deepen the channel so that the vessels can go up to their docks at any time of tide. The cost of deepening the channel will be £60,000.

TRIAL TRIP OF THE SCHUYLKILL.

The new steel steamer *Schuykill*, one of the trio of "straightbacks" built to the order of the Erie & Western Transportation Co. by the Globe Iron Works Co., was taken out for a trial trip on Monday afternoon, and after four hours' speeding, she was accepted by general manager Evans for her owners, and will at once be placed on the line between Buffalo and Chicago.

The *Schuykill* has been constructed under the superintendence of Mr. J. R. Oldham, according to Manager Evans' plans for a modern package freight carrier, and is fitted out specially to facilitate the handling of general cargo, a feature which has been most successfully carried out by her builders. On the trial trip Mr. Evans thoroughly inspected the workings of the machinery, electric lights, pumps, steam steering gear, and general equipment, expressing himself as being well satisfied therewith. General Manager John F. Pankhurst, of the Globe Iron Works Co., was also well pleased with the workings of the new ship. Superintendent of Construction John Smith, Constructing Engineer Walter Miller, and Master Mechanic Robert Hays were complimented on the perfect working and equipment of their departments.

Capt. John Beverly adjusted the compasses during the trip, and Local Inspectors De Wolf and McGrath inspected the hull, machinery and equipment, finding everything satisfactory. Quite a number of invited guests enjoyed the trial trip, and were loud in their praises of the new ship.

A YACHT AND BOAT BUILDING INDUSTRY.

The important industry in the steam yacht and boat-building plant of the Davis Boat and Oar Co. has just been placed in full working order at Wyandotte, Mich., and of which the accompanying illustration gives an accurate showing:

The new works of this enterprising company are located on the river front and embraces 8½ acres of land, where a most complete equipment for the construction of steam launches, and yachts up to 200 feet in length has been located.

Some idea of the extent of these works may be gathered from the fact that not only are the hulls built from the designs of one of the best yacht builders in the country, (Mr. O. M. Hepburn), but the entire machinery and equipment is also manufactured at these yards.

In addition to building engines of any size, from one-horse power to high pressure to a compound, or a triple expansion suitable for the larger class of yachts, the firm hold the agency for the principal smaller engines now in use, including the Shipman automatic oil engine, the Racine automatic combination coal and oil burning engine, the Lintz vapor engine, and patent safety water tube boilers of the Robinson type, propeller wheels. An enormous annual output of sail and row-boats, oars and sweeps leave these works, and the Davis, Boat and Oar Co. are fast coming into prominence as an emporium for aquatic locomotion.

THE Council of the Liverpool Mercantile Marine Service Association has written a letter to Capt. Redford, late commander of the Inman Line steamer *City of Chicago*, which was wrecked near the Old Head of Kinsale, on the south coast of Ireland, disapproving the decision of the Court of Inquiry which suspended Captain Redford's certificate for nine months. The Council announces that it intends to take measures to settle the right of shipmasters to find employment in a lower grade when their certificates are dealt with by the Board of Trade, as such a privilege is not always granted.

CONTRACT FOR A LARGE STEEL STEAMER.

The Cleveland Ship Building Co. has just closed a contract with M. A. Bradley, President of the Lake Carrier's Association, and individual owner of the largest fleet on the great lakes, for the construction of a large steel steamer of 4,000 tons capacity, to be ready for Lusi-ness early in the season of 1893.

It is significant in the placing of this contract that Mr. M. A. Bradley evidently intends to test the economy of iron and steel ships, the new contract when completed, being the first and only metal vessel in the fleet.

The general dimensions of the new steamer are 324 feet keel, 42 feet beam, and 24 feet 6 inches depth of hold, built of Otis steel, and in all respects to be of high classed modern construction. She will have a 54 inch water bottom, water tight bulkheads, the American Ship Windlass Co., steam windlass and capstans, Williamson's steam and hand steering gear, hoisting engines, and all other modern equipments. Her engines will be of the triple expansion type, diameter of cylinders 24, 38 and 61 inches, with 42 inches piston stroke, two Scotch type boilers 14 feet in diameter by 13 feet long, tested for 160 pounds and a sectional propeller wheel 13 feet 6 inches in diameter, all of which will be turned out by her builders.

The cabin plans will be the same as the steamer *Wawatam's*, it having been found that her arrangements were most satisfactory and convenient.

PROPOSALS.

UNITED STATES ENGINEER OFFICE, room 9, 134 Van Buren street, Chicago, Ill., August 6, 1892. Sealed proposals in triplicate for constructing three miles or less of the trunk of the Illinois and Mississippi canal near the mouth of Rock River; for screening, sorting and delivering sand and pebbles, and for excavating the lock pits, and constructing the foundations for two locks, will be received at this office until 12 noon, central time, Saturday, August 27, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office or to the office of assistant engineer, L. L. Wheeler, at Milan, Ill. W. L. MARSHALL, Captain, Corps of Engineers, U. S. A. 8-11 25

ARMY BUILDING, WHITEHALL-ST., New York City, July 26th, 1892. Sealed proposals, in duplicate, for the purchase of the side wheel steamer *Chester A. Arthur*, will be received here until 12 o'clock, M. August 31st., 1892, and then opened. The vessel is in good condition and is sold because her services are no longer required. She is 124 feet long on deck, overall; 42 feet in width, over all; width of hull, 24 feet from outside to outside; tonnage about 178; draft about 7½

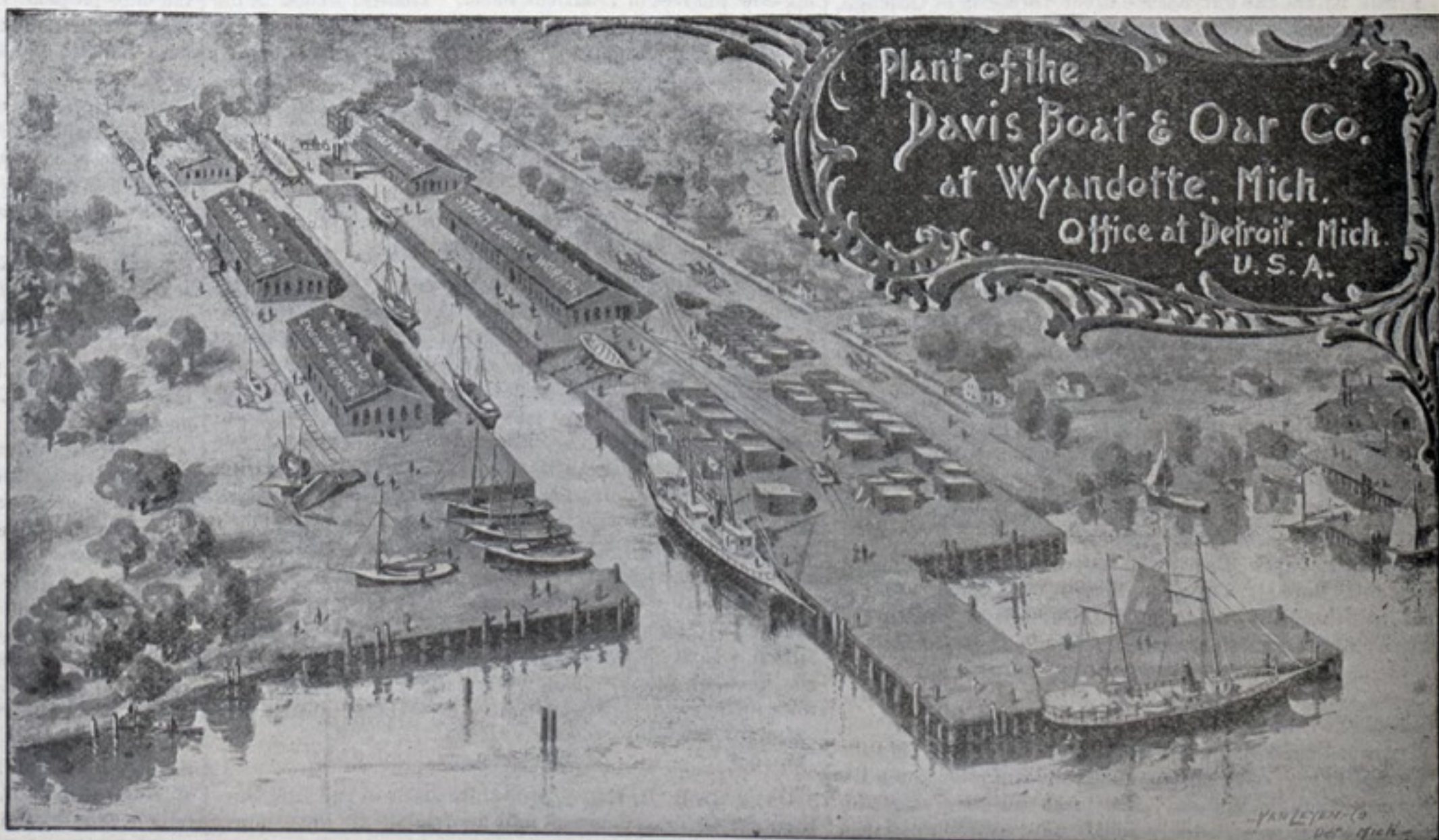
feet. Has passenger saloon 25 feet long by 12 feet wide, 8 feet wide aft. One stateroom. Lower cabin fitted up with berths. Machinery is in good condition, and boat is ready for immediate and continuous service. She was practically rebuilt in 1887, and new boilers were put in the year before. Terms cash on delivery of the boat. Each bid must be accompanied by a certified check equal to ten per centum of the amount of the bid. She can now be seen at wharf foot of Van Dyke street, South Brooklyn. The Government reserves the right to reject any or all proposals. Proposals must be endorsed "proposal for purchase of steamer *Chester A. Arthur*," and addressed to Alex. J. Perry, Assistant Quartermaster General, U. S. Army. 8-11

U. S. ENGINEER OFFICE, DETROIT, MICH., August 16, 1892. Sealed proposals for: 1. Dredging bar at mouth of Saginaw River, Mich. 2. Dredging Essexville bar near mouth of Saginaw River. 3. Dredging west channel along West Bay City, Mich. 4. Dredging channel of Saginaw River above Bay City, Mich., will be received at this office until 2 p. m. September 15, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application at this office. O. M. Poe, Colonel Corps of Engineers &c. 8-18-9-8.

U. S. ENGINEER OFFICE, 366 MILWAUKEE ST., MILWAUKEE WIS., Aug. 12 1892. Proposals, Harbor Improvements, Lake Mich. Sealed proposals for Green Bay Harbor, Wis., Dredging 120,000 cubic yards, more or less. Sheboygan Harbor, Wis., Pier Extension 200 feet with Superstructure. Port Washington, Harbor, Wis., Pier Extension 100 feet with Superstructure. Harbor of Refuge, Milwaukee, Wis., Extending Breakwater 500 feet, and 300 feet of Superstructure. Milwaukee Harbor, Wis., Cutting down and rebuilding 200 feet of Superstructure; repairing 250 feet of piers, and taking out and replacing with new 264 protection piles. Racine Harbor, Wis., Pier Extension 250 feet, and repairs. Kenosha Harbor, Wis., Pier Extension 150 feet. Waukegan Harbor, Ill., Pile Pier 376 feet, will be received at this office until 12 o'clock, noon, Monday, September 12, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. James F. Gregory, Major of Engineers, U. S. A. 8-18-9-8.

U. S. ENGINEER OFFICE, 34 WEST CONGRESS ST., DETROIT, MICH., August 17, 1892. Sealed proposals for: 1. Dredging Black River, at Port Huron, Michigan; 2. Dredging mouth of Black River at Port Huron, Michigan, will be received at this office until 2 p. m. September, 16, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. O. M. Poe, Colonel Corps of Engineers, etc. 8-18-9-8.

U. S. ENGINEER OFFICE, GRAND RAPIDS, MICHIGAN, August, 15, 1892. Sealed proposals for dredging in Frankfort Harbor, Michigan, will be received at this office until noon of Saturday, August 27, 1892, and then publicly opened. Specifications, blank forms, and all available information will be furnished on application to this office. William Ludlow, Major of Engineers, Bvt. Lieut. Col., U. S. A. 8-18 25.



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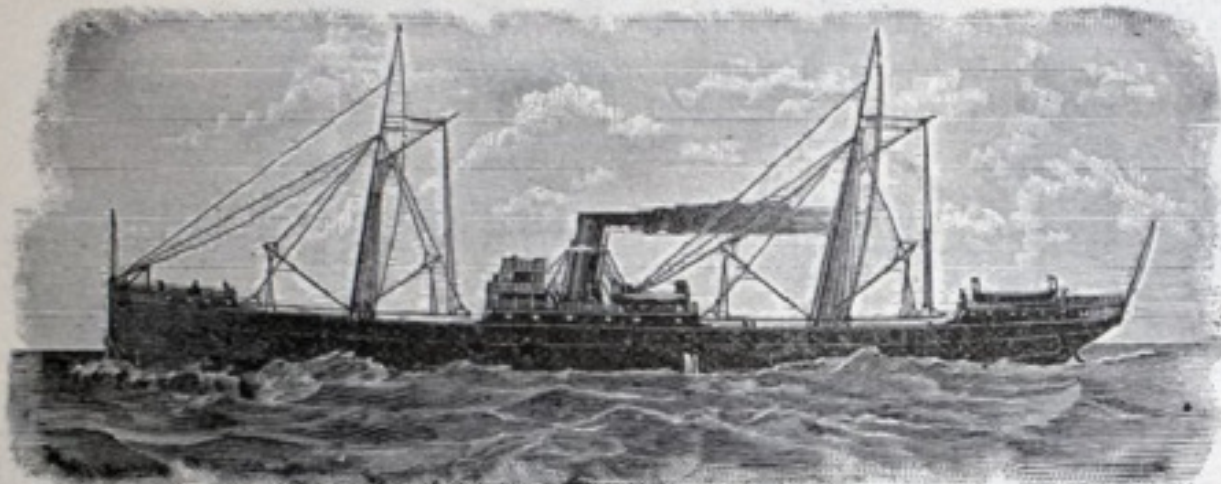
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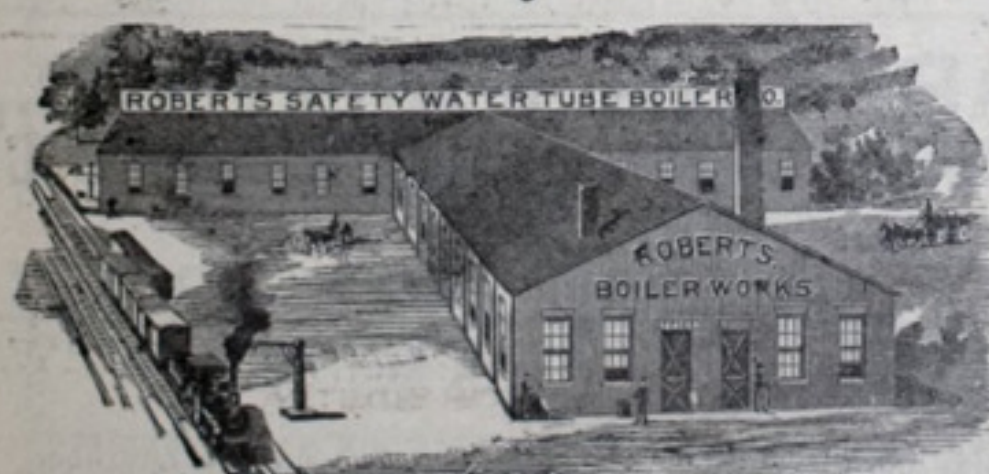
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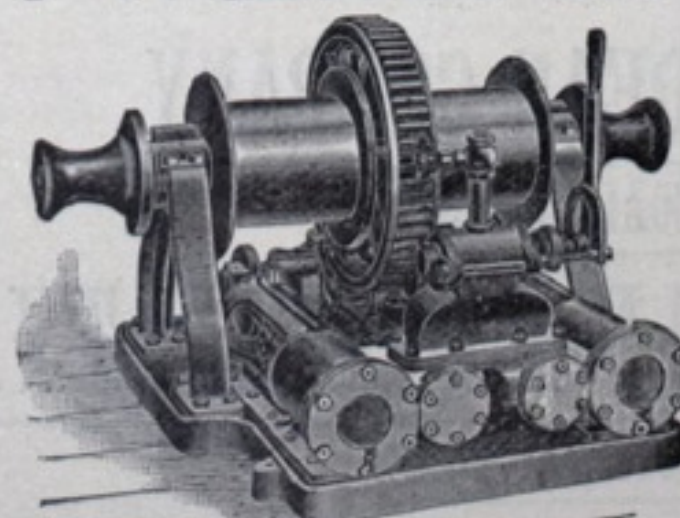
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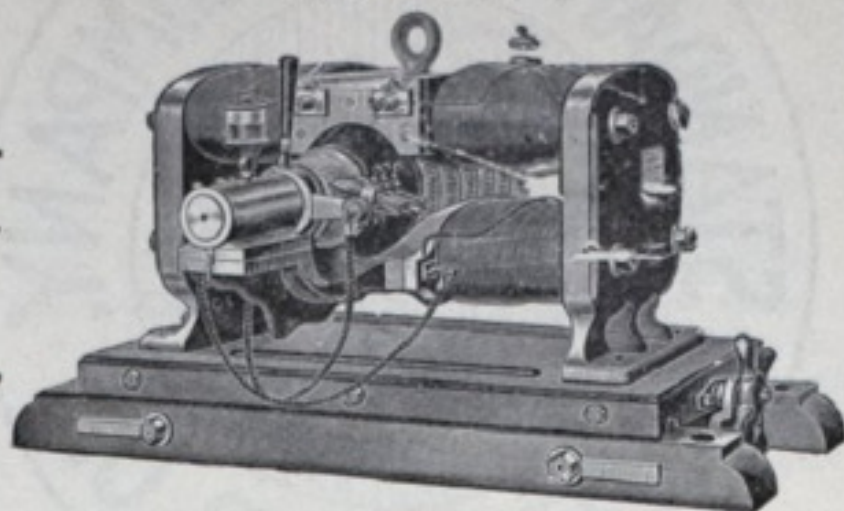
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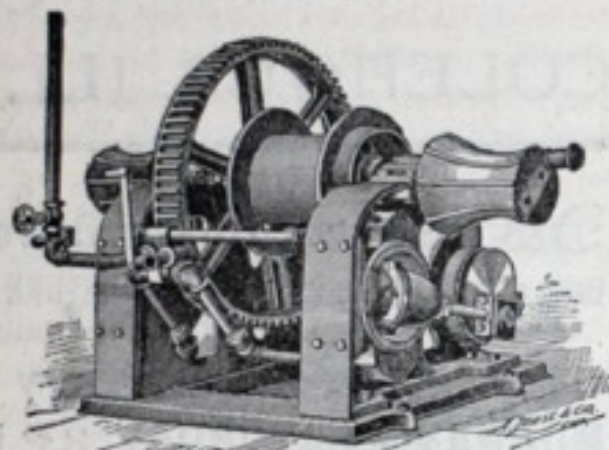
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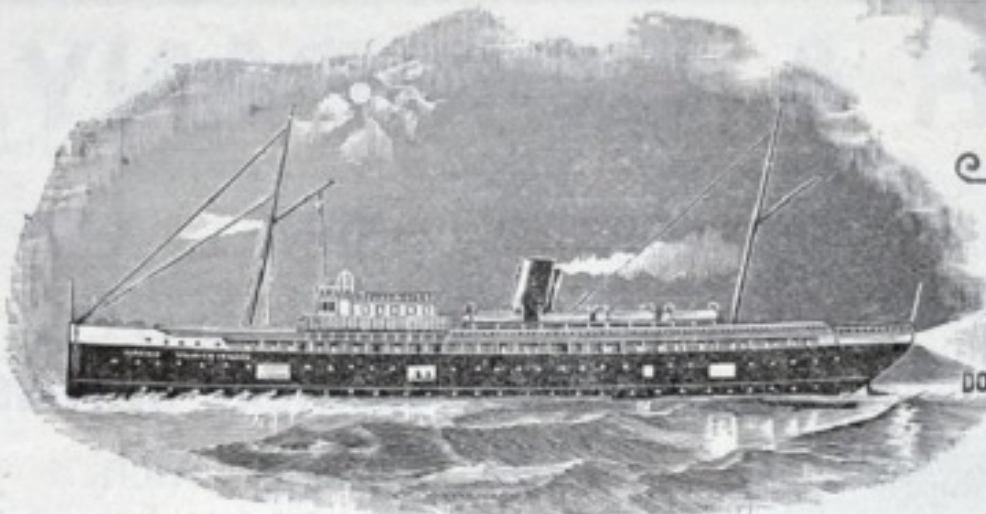


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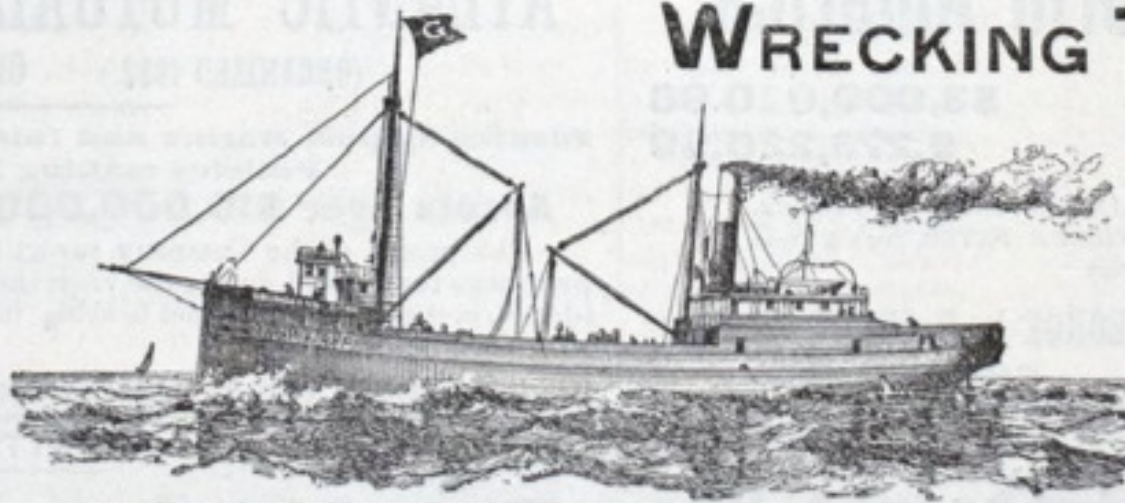
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